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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------------------------------------------------------------------------------------------------|-------------|----------------------|----------------------------------|-----------------------------|
| 10/525,587 | 02/25/2005 | Werner Gauweiler | 266140USOPCT | 4990 |
| 22850 7590 12/08/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER KOLLIAS, ALEXANDER C | |
| | | | ART UNIT 1796 | PAPER NUMBER |
| | | | NOTIFICATION DATE 12/08/2008 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|-----------------------------------------|-----------------------------------------|--|
| Office Action Summary | Application No. 10/525,587 | Applicant(s) GAUWEILER ET AL. | |
| | Examiner ALEXANDER C. KOLLIAS | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. All outstanding objections and rejections, except for those maintained below, are withdrawn in light of applicant's amendment filed on 8/25/2008.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claim Objections

3. Claim 25 is objected to because of the following informalities: claim 25 recited "an oil field an oil field operation" which appears to be a typographical error of "an oil field and an oil field operation. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 16 and 18-20, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallon et al (US 5,934,839) in view of Jachowicz et al (US 5,149,752).

Regarding claims 16, 19, and 20, Mallon et al discloses a process wherein cationic monomers comprising 10 to 90 mole % such as those given by Formula (I) such as diallyldimethylammonium chloride, diallydiethylammonium chloride and monomers such as acrylic acid which comprises less than 10 mole % (Column 17, Lines 58-67, Column 18, Lines 1-35 and Lines 57-67, Column 19, Lines 10-17, and Column 20, Lines 39-50). Based on the

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amounts of quaternized ammonium monomers and anionic monomers disclosed by the reference it is clear that the amounts disclosed by the reference meet the limitations recited in claim 1 drawn to a 1 to 99 wt % cationic monomer or quaternizable monomer and 1 to 99 wt% by weight of a water soluble monomer. The reference discloses that the polymerization of the monomers may be carried by dispersion, suspension emulsion and micro-emulsion polymerization methods with initiation of the polymerization initiated by redox free radical initiators (Column 20, Lines 5-10). The polymerization of the monomers is disclosed to take place in the presence of organic salt in the amounts of from 0.1 to 40 wt % (Column 21, Lines 28-35). Additionally, the reference discloses that polymers useful as dispersants are added to the process which are added before, during or after mixing together the cationic water-soluble polymer, water and salts (Column 21, Lines 28-35). The reference discloses that the dispersant is added in amount up to about 25 wt % (Column 2, Lines 15-18). Regarding the dispersants, the reference discloses copolymers such as dimethylaminoethylmethacrylate and corresponding acrylamide derivatives (Column 65-67 and Column 22 Lines 1-6) and anionic monomers such as ethyl acrylate, methylacrylate and methacrylate, meeting the limitations recited in claim 18.

The reference teaches all the claim limitations as set forth above. However, the reference does not disclose that the dispersant has an over negative charge.

Jachowicz et al discloses cationic polymers and anionic and/or amphoteric surfactants (Column 9, Lines 39-44). The reference discloses that the interaction of the anionic/amphoteric surfactant and cationic components results in improved stability (Column 9, Lines 57-62). Additionally, the reference discloses that the ionic character of the amphoteric surfactant is

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determined by the pH which is adjusted to be 6-9 in order to obtain a negatively charged amphoteric surfactant (Column 10, Lines 24-29).

Given that both Mallon et al and Jachowicz et al are drawn to cationic polymers, and dispersants or surfactants, given that Mallon does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the amphoteric surfactant as taught by Jachowicz et al, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the process disclosed by Mallon et al with a reasonable expectation of success.

Regarding claim 19, Modified Mallon discloses all the claim limitations as set forth above. However, Mallon et al does not disclose that the dispersant has an overall negative change at pH=6.75.

Jachowicz et al discloses cationic polymers and anionic and/or amphoteric surfactants (Column 9, Lines 39-44). The reference discloses that the interaction of the anionic/amphoteric surfactant and cationic components results in improved stability (Column 9, Lines 57-62). Additionally, the reference discloses that the ionic character of the amphoteric surfactant is determined by the pH which is adjusted to be in the range of 6-9 in order to obtain a negatively charged amphoteric surfactant (Column 10, Lines 24-29).

Given that both Mallon et al and Jachowicz et al are drawn to cationic polymers and dispersants of surfactants, and, given that Mallon does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the pH as taught by Jachowicz, it would therefore have been obvious to one of ordinary skill in the art to adjust the

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pH in the process to include a pH of 6.75 as presently claimed in order to obtain a dispersant which has a negative charge.

Regarding claims 24 and 26, Modified Mallon teaches all the claim limitations as set forth above. Additionally, Mallon et al discloses that the dispersion can be added to papermaking applications, and soil conditioning (Column 4, Lines 54-59).

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mallon et al (US 5,934,839) in view of Jachowicz et al (US 5,149,752) as applied to claims 16 and 18-20, 24, and 26 above and further in view of Lenney et al (US 5,470,903).

Regarding claim 17, modified Mallon teaches all the claim limitations as set forth above. However, Mallon et al does not disclose that the amphoteric dispersant is a copolymer of a partly hydrolyzed vinylformamide and acrylate units.

Lenney et al discloses a method for preparing aqueous polymer emulsions of vinyl monomers and a N-vinylformamide copolymer comprising acrylate units which acts as a protective colloid (Abstract, Column 2, Lines 45-54, Column 3, Lines 33-37). The reference discloses that the N-polyvinylformamide can be hydrolyzed to vinylamine (Column 2, Lines 55-67). The reference discloses that the vinyl-formamide units help to stabilize the dispersion (Column 2, Lines 24-32).

Given that both Mallon et al and Lenney are drawn to process of emulsion polymerization, and, given that Mallon does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the N-vinylformamide copolymers

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as a protective colloid as taught by Lenney et al, it would therefore have been obvious to one of ordinary skill in the art to include such protective colloids in the process disclosed by Mallon et al with a reasonable expectation of success.

7. Claims 21-23, 25, 27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallon et al (US 5,934,839) in view of Jachowicz et al (US 5,149,752) as applied to claims 16, 18-20, 24, and 26 above and further in view of Huang et al (WO 1999/46207).

Regarding claims 21-23, 25, 27, and 30, modified Mallon teaches all the claim limitations as set forth above. However, Mallon et al teach a method for dewatering comprising adding the dispersion to a dewatering process, a method for clarifying water comprising adding the dispersion to a water clarification system, a method for producing oil comprising adding the dispersion to an oil field and an oil field operation, a method for processing minerals comprising adding the dispersion to a mineral processing system, and a biotechnological method comprising utilizing the dispersion in a biotechnological application.

Huang et al teaches a method for dewatering comprising adding an aqueous dispersion of cationic water-soluble polymers to a dewatering process, a water clarification system, to an oil field and an oil field operation, and method for processing minerals comprising adding the dispersion to a mineral processing system (Page 1, Lines 5-8).

Given that both Mallon et al and Huang et al are drawn to aqueous dispersions of cationic water-soluble polymers, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cationic polymers taught by Mallon et al in the methods taught by Huang et al with reasonable expectation of success because doing so would amount to

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nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results.

8. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallon et al (US 5,934,839) in view of Jachowicz et al (US 5,149,752) as applied to claims 16, 18-20, 24, and 26 above and further in view of and further in view of Bhattacharyya (US 4,806,345).

Regarding claims 28-29, modified Mallon teaches all the claim limitations as set forth above. However, the reference does not teach a method for producing a hair or skin cosmetic comprising adding the dispersion to a hair or skin cosmetic formulation. Furthermore, the reference does not teach a hair or skin cosmetic comprising the hair or skin cosmetic formulation produced by the method as claimed above.

Bhattacharyya teaches a method for producing a hair cosmetic and a composition comprising adding the dispersion to a hair or skin cosmetic (Column 1, Lines 6-12, Lines 55-65, and Column 3, Line 49-51).

Given that both Mallon et al and Bhattacharyya are drawn to aqueous dispersions of cationic water-soluble polymers, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cationic polymers taught by Mallon et al in the methods taught by Huang et al with reasonable expectation of success because doing so would amount to nothing more than use of a known composition for its intended use, in a known environment to accomplish entirely expected results.

Response to Arguments

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9. Applicant's arguments, see Remarks, filed 8/25/2008, with respect to the rejection(s) of claim(s) 1-5 and 6-15 under 35 U.S.C. 103(a) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mallon in view of Jachowicz as applied to claims 16 and 18, 19, 20, 24, 26, Mallon in view of Jachowicz and Lenney et al as applied to claim 17, Mallon in view of Jachowicz and Huang as applied to claims 21-23, 25, 27, 30 and Mallon in view of Jachowicz and Bhattacharyya claims 28-29 in the rejection set forth above.

10. Regarding Applicant's arguments regarding claims 6-12 and 15 rejected over Boechke in view of Huang, the deficiency of Boechke in view of Huang is remedied by Mallon in view of Jachowicz and Huang in the rejections set forth in Paragraph 7 above.

11. Regarding Applicant's arguments regarding claims 13 and 14 rejected over Boechke in view of Bhattacharya, the deficiency of Boechke in view of Bhattacharya is remedied by Mallon in view of Jachowicz and Huang in the rejections set forth in Paragraph 8 above.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER C. KOLLIAS whose telephone number is (571)-270-3869. The examiner can normally be reached on Monday-Friday, 8:00 AM -5:00 PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C. K./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796